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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,589	02/10/2000	Osamu Hamamoto	35.C14248	4095

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EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 02/11/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/501,589

Applicant(s)

HAMAMOTO, OSAMU

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8 and 9.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 1 – 12 have been considered but are moot in view of the new ground(s) of rejection.

Specification

2. The title of the invention, as amended, is still not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title of the invention, as amended, is not indicative of the invention; rather, it is extremely broad and indicative only of the subject area that the present invention resides in.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1 – 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami in view of Kobayahi et al.

6. For **Claims 1 and 6**, Murakami discloses, as shown in figures 1 – 5, 7a, and 8 – 10 and as stated in columns 2 (lines 23 – 41 and 54 – 68), 3 (lines 1 – 61), 4 (lines 1 – 33), and 5 (lines 3 – 43), an image input apparatus comprising:

a plurality of photoelectric conversion devices (patterned and layered semiconductor layer – 3 – of figure 5d) respectively including photoelectric conversion areas (patterned and divided semiconductor layer – 3 – of figure 5d); and

a light guide member (fiber optic plate – 1 – of figure 3) for guiding light to be incident on the photoelectric conversion areas included in each of said photoelectric conversion devices,

wherein said light guide member (1) includes connection/transmission member (first and second electrodes – 2 and 4, respectively – of figures 1, 5d, and 7a) which connects said plurality of photoelectric conversion devices (3) so as to transmit electrical signal between said plurality of photoelectric conversion devices (see column 5, lines 28 – 31).

However, Murakami does not disclose wherein each of the photoelectric conversion devices includes a two-dimensional array of photoelectric conversion areas and also does not disclose wherein the plurality of photoelectric conversion devices/areas and the light guide member are bonded together using adhesive.

In regards to the bonding together of the photoelectric conversion devices/area and the light guide member, Murakmi discloses, as stated in column 3 (lines 3 – 33), that the photoelectric conversion devices/areas are formed on the light guide member using a vapor

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deposition method, a sputtering method, and the like. Murakami provides motivation for forming the photoelectric conversion devices/areas on the light guide member, using the methods above, in column 1 (lines 33 – 39). As stated, in the prior art, part of the semiconductor layer, which forms the photoelectric conversion devices/areas, is removed by an etching process (in the substrate) and the light is designed to enter into the etched portion. However, this type of formation has a drawback because pinholes generated in the semiconductor layer during the etching process lowers the yield of photoelectric conversion devices/areas. Thus, Murakami discloses a method of formation using vapor deposition, sputtering, and the like. Since, the primary objective in Murakami is to increase the efficiency of the photoelectric conversion devices/areas by disclosing new methods for forming the photoelectric conversion devices/areas on the light guide member, at the time the invention was made, one with ordinary skill in the art would have also been motivated, in Murakami, to bond the photoelectric conversion devices/areas to the light guide member using an adhesive. Thus, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have, in Murakami, bonded the photoelectric conversion devices/areas to the light guide member using an adhesive.

In regards to each of the photoelectric conversion devices including a two-dimensional array of photoelectric conversion areas, Kobayashi et al. also disclose, an image input apparatus comprised of photoelectric conversion devices. As shown in figure 3 and as stated in columns 5 (lines 45 – 59), 6 (lines 2 – 11 and 55 – 65), and 7 (lines 4 – 19), Kobayashi et al. disclose a plurality of photoelectric conversion devices (100) wherein each of which includes a two-dimensional array of photoelectric conversion areas (100 – 400). The photoelectric conversion areas (100 – 400) are fabricated on four photoelectric device substrates (100) and bonded

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together so that an image input apparatus having large dimensions can be constituted. As stated in column 2 (lines 43 – 63), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a plurality of photoelectric conversion devices (100) wherein each of which includes a two-dimensional array of photoelectric conversion areas (100 – 400) that are fabricated on the four photoelectric device substrates (100) and bonded together, as taught by Kobayashi et al., in the image input apparatus, of Murakami, as a means to eliminate wiring defects in the manufacturing process and reduce the complexity and expense in connecting high-density scanning circuits. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included a plurality of photoelectric conversion devices (100) wherein each of which includes a two-dimensional array of photoelectric conversion areas (100 – 400) that are fabricated on the four photoelectric device substrates (100) and bonded together, as taught by Kobayashi et al., in the image input apparatus, of Murakami.

7. For **Claims 11 and 12**, Murakami discloses, as shown in figures 1 – 5, 7a, and 8 – 10 and as stated in columns 2 (lines 23 – 41 and 54 – 68), 3 (lines 1 – 61), 4 (lines 1 – 33), and 5 (lines 3 – 43), an image input apparatus comprising:

a plurality of photoelectric conversion devices (patterned and layered semiconductor layer – 3 – of figure 5d) respectively including photoelectric conversion areas (patterned and divided semiconductor layer – 3 – of figure 5d);

a light guide member (fiber optic plate – 1 – of figure 3) for guiding light to be incident on the photoelectric conversion areas included in each of said photoelectric conversion devices,

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wherein said light guide member (1) includes connection/transmission member (first and second electrodes – 2 and 4, respectively – of figures 1, 5d, and 7a) which connects said plurality of photoelectric conversion devices (3) so as to transmit electrical signal between said plurality of photoelectric conversion devices (see column 5, lines 28 – 31);

However, Murakami does not disclose wherein each of the photoelectric conversion devices includes a two-dimensional array of photoelectric conversion areas, wherein the plurality of photoelectric conversion devices/areas and the light guide member are bonded together using adhesive, an image processing circuit which processes an image signal output from said photoelectric conversion device, or a display device which displays the signal from said image processing means.

In regards to the image processing circuit and the display device, Official Notice is taken that both the concepts and advantages of including an image processing means and a display means are well known and expected in the art. It would have been obvious to include an image processing means for noise reduction, image zoom, image focus, image arrangement, etc. and a display means to view the finished image for preview or entertainment.

In regards to the bonding together of the photoelectric conversion devices/area and the light guide member, Murakami discloses, as stated in column 3 (lines 3 – 33), that the photoelectric conversion devices/areas are formed on the light guide member using a vapor deposition method, a sputtering method, and the like. Murakami provides motivation for forming the photoelectric conversion devices/areas on the light guide member, using the methods above, in column 1 (lines 33 – 39). As stated, in the prior art, part of the semiconductor layer, which forms the photoelectric conversion devices/areas, is removed by an etching process (in the

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substrate) and the light is designed to enter into the etched portion. However, this type of formation has a drawback because pinholes generated in the semiconductor layer during the etching process lowers the yield of photoelectric conversion devices/areas. Thus, Murakami discloses a method of formation using vapor deposition, sputtering, and the like. Since, the primary objective in Murakami is to increase the efficiency of the photoelectric conversion devices/areas by disclosing new methods for forming the photoelectric conversion devices/areas on the light guide member, at the time the invention was made, one with ordinary skill in the art would have also been motivated, in Murakami, to bond the photoelectric conversion devices/areas to the light guide member using an adhesive. Thus, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have, in Murakami, bonded the photoelectric conversion devices/areas to the light guide member using an adhesive.

In regards to each of the photoelectric conversion devices including a two-dimensional array of photoelectric conversion areas, Kobayashi et al. also disclose, an image input apparatus comprised of photoelectric conversion devices. As shown in figure 3 and as stated in columns 5 (lines 45 – 59), 6 (lines 2 – 11 and 55 – 65), and 7 (lines 4 – 19), Kobayashi et al. disclose a plurality of photoelectric conversion devices (100) wherein each of which includes a two-dimensional array of photoelectric conversion areas (100 – 400). The photoelectric conversion areas (100 - 400) are fabricated on four photoelectric device substrates (100) and bonded together so that an image input apparatus having large dimensions can be constituted. As stated in column 2 (lines 43 – 63), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a plurality of photoelectric conversion devices (100) wherein each of which includes a two-dimensional array of photoelectric conversion areas (100 –

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400) that are fabricated on the four photoelectric device substrates (100) and bonded together, as taught by Kobayashi et al., in the image input apparatus, of Murakami, as a means to eliminate wiring defects in the manufacturing process and reduce the complexity and expense in connecting high-density scanning circuits. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included a plurality of photoelectric conversion devices (100) wherein each of which includes a two-dimensional array of photoelectric conversion areas (100 – 400) that are fabricated on the four photoelectric device substrates (100) and bonded together, as taught by Kobayashi et al., in the image input apparatus, of Murakami.

8. As for **claims 2 and 7**, Murakami discloses, an apparatus wherein said connection/transmission member includes a terminal and an interconnection first and second electrodes – 2 and 4, respectively – of figures 1, 5d, and 7a).

9. As for **claims 3 and 8**, Murakami discloses, an apparatus wherein the electrical signal includes a power supply voltage for driving the photoelectric conversion area (see figure 8 and column 5, lines 28 – 31).

10. As for **claims 4 and 9**, Murakami discloses, an apparatus wherein the electrical signal includes a control signal for driving the photoelectric conversion area (see figure 8 and column 5, lines 28 – 31).

11. As for **claims 5 and 10**, Murakami discloses, an apparatus wherein said photoelectric conversion device includes driving circuit which drives the photoelectric conversion area (see column 5, lines 28 – 31).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
FEBRUARY 4, 2004


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